ANALYST:		VPDES NO	

Parameter: Nitrate Nitrogen
Method: Brucine
04/02

METHOD OF ANALYSIS:

	14th Edition of Standard Methods 419-D
	EPA Methods For Chemical Analysis 352.1
	ANSI Photographic Processing Effluents p.28
	AOAC 15th Edition 973.50

		Y	N
1)	Is the brucine method used for samples with NO_3-N concentrations ranging from 0.1 mg/L to 1.0 mg/L? [SM-1; 352.1-1.2]		
2)	Are samples containing NO_3-N concentrations greater than 1.0 mg/L diluted to fall within the desired range? [Permit]		
3)	Is absorbance measured with a spectrophotometer or filter photometer at 410 nm with a light path of 2.5 cm [SM-2.a.2]; 1 cm or longer [352.1-5.1] ?		
4)	Are neoprene coated sample racks used to hold the reaction tubes? [SM-2.c; 352.1-5.3]		
5)	Is the hot water bath capable of maintaining 100^{o}C (95^{o}C 14th Edition S.M.)? [SM-2.d; 352.1-5.4]		
6)	Does the hot water bath have a mechanism for evenly circulating the water? [SM-2.d; 352.1-5.4]		
7)	Are reaction tubes made of borosilicate glass and have a light path of 1 inch? [SM-2.e; 352.1-5.2]		
8)	Is each reaction tube blanked against itself? [SM-4.c; 352.1-8.2]		
9)	Are reaction tubes free of fingerprints, scratches or stains? [Permit]		
10)	Are reagents prepared as described in the method? [SM-3; 352.1-6]		
11)	Is the brucine-sulfanilic acid kept refrigerated in a dark bottle? [352.1-6.4]		
12)	Is brucine-sulfanilic acid prepared quarterly? [SM-3.d; 352.1-6.4]		
13)	Is potassium nitrate stock solution preserved with 2 mL/L of chloroform? [352.1-6.5]		
14)	Is potassium nitrate stock solution prepared semiannually? [352.1-6.5]		
15)	Is potassium nitrate standard solution prepared weekly? [SM-3.b; 352.1-6.6]		
16)	Are standards prepared using Class A volumetric glassware? [SM-102.5; Permit]		
17)	Is the sulfuric acid solution kept tightly stoppered to prevent the absorption of atmospheric moisture? [SM-3.e; 352.1-6.3]		
18)	Is nitrate/nitrite free water used in all aspects of the procedure? [SM-102.2; 352.1-6.1]		
19)	Is sample pH adjusted to approximately 7.0 SU with acetic acid or NaOH? [352.1-7.1]		
20)	Are samples filtered when necessary to remove turbidity? [352.1-7.1]		
21)	Are samples containing chlorine dechlorinated by the addition of one drop of sodium arsenite solution per 0.1 mg Cl? [SM-4.b; 352.1-4.4]		
22)	Is curve prepared using the same conditions for standards as for samples? [SM-4.c; 352.1-8.1]		

23)	Is a new curve drawn when standards are not within ±10% of the curve? [Permit]		

		Y	N
24)	Are at least two standards which bracket the sample values and a reagent blank run with each series of samples? [Permit]		
25)	Are reaction tubes placed in the sample rack to allow for even flow of water around all tubes?[SM-4.c; 352.1-7.2]		
26)	Is 2 mL of NaCl solution added to all reaction tubes (including blanks and standards)? [SM-4.c; 352.1-7.5]		
27)	Is 10 mL of sulfuric acid solution added to each reaction tube?[SM-4.c; 352.1-7.6]		
28)	Is each tube mixed by swirling prior to being placed in the cool water bath (0 to 10^{o}C)? [SM-4.c; 352.1-7.6]		
29)	Are reaction tubes allowed to come to thermal equilibrium before the addition of 0.5 mL of brucine-sulfanilic acid? [SM-4.c; 352.1-7.6]		
30)	Is each tube mixed by swirling prior to being placed in the 100^{o}C (95^{o}C 14th Edition S.M.) water bath? [SM-4.c; 352.1-7.7]		
31)	Are reaction tubes removed from the 100^{o}C water bath after exactly 25 minutes (20 minutes 14th Edition S.M.)? [SM-4.c; 352.1-7.7]		
32)	Are samples containing color or dissolved organic material corrected by subtracting the absorbance of the sample without brucine-sulfanilic acid from the absorbance of the sample with the brucine-sulfanilic acid? [SM-4.c; 352.1-8.2]		

PROBLEMS: